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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,584	02/01/2001	Andreas Bosio	P66095US0	7032

136 7590 10/02/2002

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EXAMINER	
MAUPIN, CHRISTINE L	

ART UNIT	PAPER NUMBER
1637	14

DATE MAILED: 10/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	09/701,584	BOSIO ET AL.	
	Examiner	Art Unit	
	Christine L. Maupin	1637	

-- The MAILING DATE of this communication appears on the cover sheet with the corresp ndenc address --

Peri d f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 6 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 December 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disp sition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 January 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification Objections

Abstract

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Correction of the following is required: In the instant case the abstract is written in multiple paragraph form and should be rewritten into a single paragraph form, further the term "said" is used throughout the abstract.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title.

Claim 8 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 4, 5, 6, 8, 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 4 and 5, the formula given in claims 4:

$$(XO)_3\text{-Si-Y-Nu}$$

has brackets around the chemical moiety $(XO)_3$ which is not the same structural limitation of the chemical structural formula given in claim 5 of:

$$(Me)_3O\text{-Si-}(CH_2)_3\text{-}NH_2\text{-}$$

where here, the brackets are now around only the alkyl group excluding the oxygen, which is a different formula than that which is presented in claim 4 and is also inconsistent with the applicants Figure 1. For purposes of examination the structural formula will be considered to be that of claim 4 and the brackets are misplaced in claim 5. Further it is confusing if the O is oxygen or if it is another letter variable in the formula of claim 4. Reconsideration of the terms for the variable of claim 4 is requested,

Regarding claim 6, what appears to be set forth is an improper chemical Markush group. The relationship between the groups preceded with a dash and the groups preceded with a letter is unclear. The claim should read, "characterized by the functional groups of the homobifunctional linkers selected from the group consisting of" then followed by the chemical groups with either an alphabetic order with brackets or by a dash but not a combination of both to obviate this rejection.

Regarding claim 6, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 6 recites the broad recitation "characterized in that the functional groups of the said homobifunctional linker comprise the following groups:.....", and the claim also recites according to claim 1 which is the narrower statement of the range/limitation. By reversing the limitations of the claims this rejection may be obviated.

Regarding claim 8, this claim provides for the use of " a support", but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Regarding claim 9, the phrase "preferably" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d). This should be removed from the claim or the limitations of the range of bp restated so that is clear what range the applicants are referring to.

Regarding claims 9 and 10 the brackets in the claims need to be removed from the claims, surround the word (assaying) in claim 9 and surrounding the word (unreacted) in claim 10.

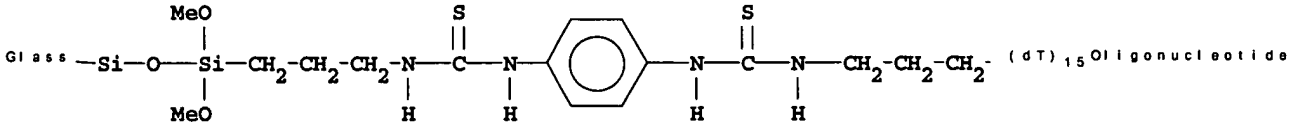
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guo et al.,, et al., Nucleic Acids Research (1994), Vol.22, No.24. pp 5456-5465, and further in view of Chrisey et al., et al, US Patent No. 5,688,642 issued November 18th, 1997.

In regard to claim 1, here Gou teaches a support compromising oligonucleotide (abstract, page 5458 section titled Support Chemistry) to at least one major surface through bifunctional spacers and linkers where the oligonucleotide may be covalently attached at the 3' or 5' terminal (see Figure 1 as compared to applicant's Figure 1 and also see end of 1st paragraph in column 1 of page 5459 for use of 3' and 5' terminal ends).



1,4-disubstituted benzene

Guo, et al., Nucleic Acids Research 1994, Vol. 22, No. 24. pg 5458

In regard to claim 2, here Guo et al., teaches that the rigid homobifunctional linker consisting of specifically a 1,4-disubstituted benzene (see page 5458 section titled Support Chemistry).

In regard to claim 3, Guo et al., teaches that the oligonucleotide may be DNA (see section on Material and Methods page 5457, and also see page 5458 section titled Support Chemistry).

In regard to claims 4 and 5, here Guo et al., teaches that a bifunctional spacer having the following structure:

$$(XO)_3\text{-Si-Y-Nu}$$

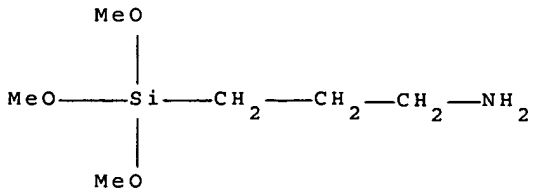
here Guo et al., teaches the same formula of spacer or coupler which is stated" as well known in the art" (bottom of column 2 on page 5458 and continued through the first paragraph of the top of page 5458) the instant application when:

a) X=C_1 alkyl, therefore giving (CH_3O)-;

b) Si=Si;

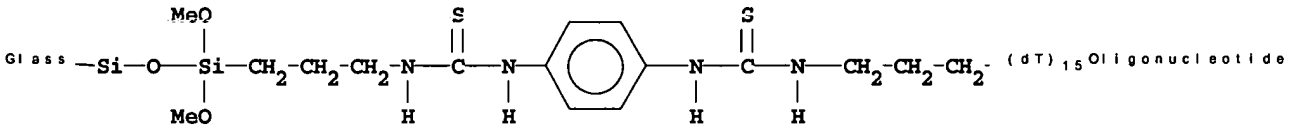
c) Y=C_3 alkylene, therefore giving -CH_2-CH_2-CH_2-;

d) Nu= -NH_2-, or - therefore giving the structure of claim 5 following the formula of claim 4 of $(XO)_3$-Si-Y-Nu with the substitutions as shown above to give $(MeO)_3$-Si-$(CH_2)_3$-NH_2-:



In regard to claim 6, Guo et al., further teaches that the linkers (first paragraph of column 1 on page 5459) that are used for the immobilization of oligonucleotides (arrays) on a solid support of glass may be achieved using 3-aminopropyl trimethoxysilane and 1,4-phenylene diisothiocyanate.

In regard to claim 7, Guo et al., teaches that the oligonucleotide support may be prepared by a primary amino (3-aminopropyl trimethoxysilane and 1,4-dhenylene diisothiocyanate) where the immobilization oligomer is 15bp long and is bonded to the isothiocyanate group by a dT spacer with 15 nucleotides and $(CH_2)_6$ for hybridization (see abstract and also the bottom paragraph of column 2 of page 5458) and further states that this may be used with longer oligonucleotides:

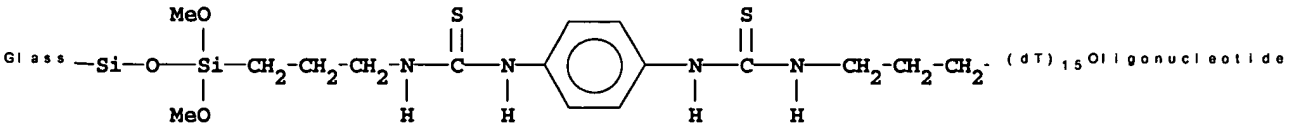


1,4-disubstituted benzene

Guo, et al., Nucleic Acids Research 1994, Vol. 22, No. 24. pg 5458

or PCR (see the first paragraph in column 2 of page 5457 in section titled DNA amplification and strand separation) and that they may be made from the 3' or 5' terminal end (see end of 1st paragraph in column 1 of page 5459 for use of 3' and 5' terminal ends).

In regard to claims 8, here Guo et al., as stated above teaches that the oligonucleotide support (or array) may be prepared by a primary amino (3-aminopropyl trimethoxysilane and 1,4-dhenylene diisothiocyanate) where the immobilization oligomer is 15bp long and is bonded to the isothiocyanate group by a dT spacer with 15 nucleotides and $(CH_2)_6$ for hybridization (see abstract and also the bottom paragraph of column 2 of page 5458):

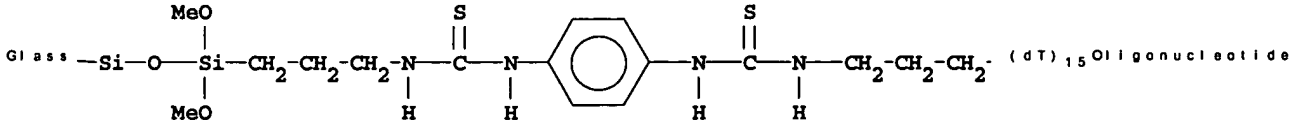


1,4-disubstituted benzene

Guo, et al., Nucleic Acids Research 1994, Vol. 22, No. 24. pg 5458

or PCR (see the first paragraph in column 2 of page 5457 in section titled DNA amplification and strand separation) and that they may be made from the 3' or 5' terminal end (see end of 1st paragraph in column 1 of page 5459 for use of 3' and 5' terminal ends). Guo et al., further uses this support bound oligonucleotide (or arrays) on the surface of glass (see paragraph at the bottom of column 1 on page 5458 and continuing in to the top of column 2 on page 5458) for the analysis of genetic polymorphisms by using the oligo bound structures for a method of fluoro-spectrophotography where the strands of DNA are tagged with fluorophores and hybridized to the support bound oligonucleotides or arrays and the hybridization pattern is detected by fluorescence scanning (see bottom paragraph of column 1 of page 5458 continuing through to the bottom of column 2 of page 5458).

In regard to claim 10, here Guo et al., discloses the chemical preparations that must be in place in order to develop the coupling of the spacers to the glass or silanized glass product such as aqueous solution solvent or a polar anhydrous solvent that would produce non-specific (polar aprotic solvent) binding to the support (see top paragraph of column 1 of page 5459), the linker is dissolved in p-phenylenediiothiocycante with is anhydrous, or non anhydrous if mixed with a small percentage of water and would be polar and basic or aprotic along with the modified oligonucleotide to produce a surface bound oligonucleotide where the oligonucleotide is denatured and excess if removed (see product Figure 1 as shown below and on the bottom of column 2 of page 5458).

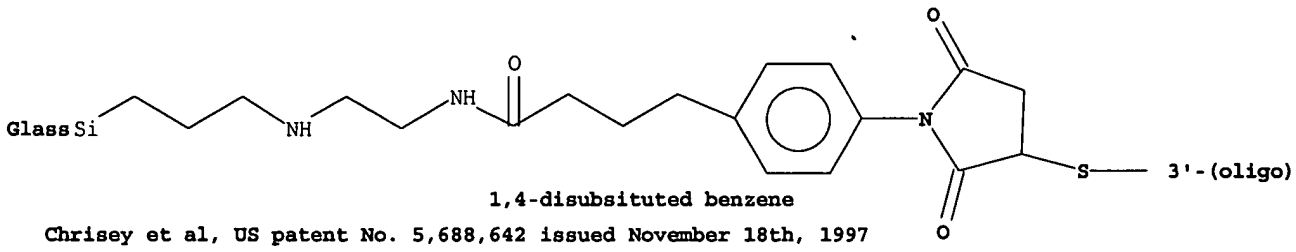


1,4-disubstituted benzene

Guo, et al., Nucleic Acids Research 1994, Vol. 22, No. 24, pg 5458

Guo et al., does not specifically teach that the oligonucleotide is in the range of 200 to 400 oligonucleotides in length.

Chrisey et al., teaches that a 1,4 disubstituted benzene spacer (figure 3 and see column 4, lines 1-15, and column 3 lines 20-26) that lack the strict magnitude of rigidity and do not have the same functional or chemical group (bihomofunctional) on each side of the benzene ring. However, Chrisey et al., does teach 1,4-disubstituted benzene spacers with linkers that are covalently or non-covalently bound to a oligonucleotide from a silica/glass containing solid support (column 4, lines 34-61). Chrisey et al., further teaches that the oligonucleotide may be labeled with a fluorescent or radio active probe for detection (column 9, line 27-44) and that the oligonucleotides may be from 4 to 400 bases in length which are attached to the solid support surface (column 8, lines 39-68 and column 9, lines 1-26 and see column 18, lines 48-49).



1,4-disubsituted benzene

Chrisey et al, US patent No. 5,688,642 issued November 18th, 1997

Therefore, it would be prima facie obvious to one of ordinary skill in the art at the time the invention to modifiy the oligonucleotide linked supports of Guo et al., to use longer oligonucleotides as taught by Chrisey et al., where Chrisey et al., specifically teaches (column line 46) "Typically, these nucleic acid molecules are natural or synthetic oligomers of DNA or RNA which may be modified with a thiol or amino group in a specific

location in the oligomer (or by incorporating a ribose sugar which may then be oxidized). (column 8, line 45) Typically, these oligomers include from about 4 to about 400 bases, and more typically from about 20 to about 150 bases. Even larger nucleic acid oligomers may be created using these immobilized oligomers as primers for synthesis of amplified nucleic acids or by incorporation of modified (column 8, line 51) nucleotides during the amplification process.

An ordinary practitioner would have been motivated to modify Guo et al., to make longer oligonucleotides, as taught by Chrisey et al., since larger probes would be more specific, more sensitive and require less time than an equivalent reaction using probes, and would permit the use of higher washing and hybridization temperatures

Claim Rejections - 35 USC § 103

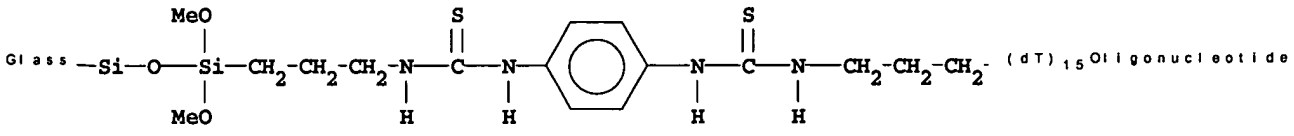
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Guo et al.,, et al., Nucleic Acids Research (1994), Vol.22, No.24. pp 5456-5465 as applied to claims 1-8 and 10 above, and further in view of Schena et al., et al.,, M., "Genome Analysis with Gene Expression Microarrays", (1996) Vol.18, No.5, pp 427-431.

As stated above Guo et al., et al., discloses or teaches that the oligonucleotide support (or array) may be prepared by a primary amino (3-aminopropyl trimethoxysilane and 1,4-dhenylene diisothiocyanate) where the immobilization oligomer is 15bp long and is

bonded to the isothiocyanate group by a dT spacer with 15 nucleotides and $(CH_2)_6$ for hybridization (see abstract and also the bottom paragraph of column 2 of page 5458):



1,4-disubstituted benzene

Guo, et al., Nucleic Acids Research 1994, Vol. 22, No. 24, pg 5458

or PCR (see the first paragraph in column 2 of page 5457 in section titled DNA amplification and strand separation) and that they may be made from the 3' or 5' terminal end (see end of 1st paragraph in column 1 of page 5459 for use of 3' and 5' terminal ends). Guo et al., further uses this support bound oligonucleotide (or arrays) on the surface of glass (see paragraph at the bottom of column 1 on page 5458 and continuing in to the top of column 2 on page 5458) for the analysis of genetic polymorphisms by using the oligo bound structures for a method of fluoro-spectrophotography where the strands of DNA are tagged with fluorophores and hybridized to the support bound oligonucleotides or arrays and the hybridization pattern is detected by fluorescence scanning (see bottom paragraph of column 1 of page 5458 continuing through to the bottom of column 2 of page 5458). Guo et al., also teaches that as many as 347 bp are hybridized with the solid bound oligonucleotide or arrays (top paragraph of column 1 on page 5460).

Guo et al., et al., do not teach the use of mRNAs or the length of the oligonucleotide being in the range of 200-600 bp.

Schena et al., teaches the use of very small amounts of mRNAs with amplification by RP-PCR is used to create cDNA oligonucleotides which are that are bound to solid supports for analysis and quantification of whole gene expression as an alternative to genetic dissection as well as using visual a visual color determination expression assay

(see abstract, paragraph 1 of column 1, and second paragraph of column 1 on page 429). Here, Schena et al., teaches that in monitoring gene expression the cDNA from the mRNA are linked chemically to the glass surface and that the amplification of mRNA is prepared by reverse-PCR transcription allowing for the monitoring in very small samples of tissue such as human blood (top paragraph of column 2 on page 430). Schena et al., also discloses that the specificity of the assay is due to the use of relatively long hybridization targets beginning at 0.5kb in length (beginning of the second paragraph of column 1 on page 430). With the use of longer oligonucleotides one of ordinary skill in the art would want and now be allowed to place as rigid as possible spacers and linkers so that steric interferences and tangling effects of the oligonucleotides would be limited or prevented and produce higher yields of the cloned sample when hybridization with the rigid structure is taking place and also preventing mismatches or crossover bonding by combining the the rigid bihomofunctional linkers and spacer of Guo te al, and the methods of Schena et al.

Therefore, it would be prima facie obvious to one of ordinary skill in the art at the time the invention was made to utilize the silica based glass, and the rigid bihomofuntional spacers and links of Guo et al., with the methods of Schena et al., to make quantitive measurements of DNA or RNA with solid bound supports or arrays of 200 to 600 bp. Schena et al., teaches that using the methods of Guo et al., one of ordinary skill can utilized longer oligomeric lengths therefore enabling one of ordinary skill in the are at the time the invention was made to link whole genome constructs to the solid supports to be used for the amplification especially, supported by the statements disclosed by Schena et al., that this would further advance genetic studies by allowing for the of monitoring in very small samples of collected tissue such as human blood (top paragraph of column 2 on page 430)

to be screened or identified with out dissection of the genome (abstract) and allowing for the whole gene to be amplified in one piece. Schena et al., further discloses that the specificity of the assay due to the use of relatively long hybridization targets or whole genomes (abstract) beginning in the range of ranging 0.5 (beginning of the second paragraph of column 1 on page 430) which is within the size range of a whole gene.

Response to Arguments

Applicant's remark concerning priority has been consider and found persuasive. Therefore the record has been corrected to shown that the requirements for priority status have been completed and that the office has received all documents.

Applicant's argument that Guo et al., does not teach a rigid homobifunctional linker is not found persuasive. The claimed invention does not require that all the rigid homobifunctional linkers listed in the group are required to be taught in the prior art as they are all considered as functional equivalents. As MPEP 2111.03 states "The transitional phrases "comprising", "consisting essentially of" and "consisting of" define the scope of a claim with respect to what unrecited additional components or steps, if any, are excluded from the scope of the claim." The claims are open to situations where any of the listed compounds in the claim may be met, but not necessarily all of the compound limitations, due to the use of the phrase "consisting" in the claim language.

Applicant argues that the rejection is in error because the synthesis of the claimed invention of compounds is not taught. Applicant further argues that Guo et al., therefore lacks enablement of the invention regarding the synthesis of the claimed compounds. With regard to the argument that Guo et al., is not enabling, because he does not teach the specific supporting structural synthesis Applicant's arguments filed March 4th, 2002 have

been fully considered but they are not persuasive. Guo et al., not only discloses how the support may have the chemical moieties attached to the solid support but also uses the solid support or array for attaching cDNA to the second of the homobifunctional linking functional groups.

As MPEP 716.01(c) notes "the arguments of consul cannot take the place of evidence in the record. In re Schulze, 364 F.2d. 600, 602, 145 USPQ 716, 718 (CCPA 1965). Examples of attorney statements which are not evidence and which must be supported by an appropriate state affidavit or declaration including statements regarding unexpected results, commercial success, solution of a long-felt need, inoperability of the prior art."

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, as stated above, it would be prima facie obvious to one of ordinary skill in the art at the time the invention was made to utilize the silica based glass, spacers and links of Guo et al., with the methods of Schena et al., to make quantitive measurements of DNA or RNA with solid bound supports or arrays of 200 to 600 bp. One of ordinary skill in the art would have motivation directed by the fact that Guo et al., discloses using an array within the claimed range (347 bp) and where Schena et al., teaches that using the methods of Guo et al., can be used for the

amplification of mRNA by reverse-PCR transcription especially, supported by the fact, since disclosed by Schena et al.,, that this would further advance genetic studies by allowing for the of monitoring in very small samples of collected tissue such as human blood (top paragraph of column 2 on page 430) to be screened or identified with out dissection of the genome (abstract). Schena et al., also discloses that the specificity of the assay is due to the use of relatively long hybridization targets or whole genomes (abstract) ranging from 0.5 to 2.0 kb cDNAs (beginning of the second paragraph of column 1 on page 430) which is a whole gene that is used contrary to applicants arguments.

Conclusion

All claims are drawn to the claimed invention 1-10, have been rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine L. Maupin; whose telephone number is (703) 308-3617 and fax number is (703) 746-7641.

The examiner is normally in the office between the hours of 9:30 a.m. and 5:30 p.m., and telephone calls either in the morning or the mid-afternoon are most likely to find the examiner in the office.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion, can be reached on (703) 308-1119.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1234.

Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission via the U.S.P.T.O. Fax Center located in Crystal Mall 1. The CM1 Fax Center numbers for Technology Center 1600 are either (703) 308-4242 or (703) 308-

2724. Please note that the faxing of such papers must conform with the Notice to Comply published in the Official Gazette, 1096 OG 30 (November 15, 1989).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1123.

September 27, 2002

Christine L. Maupin
Examiner
Art Unit 1637

KENNETH R. HORLICK, PH.D
PRIMARY EXAMINER

9/30/02